

## CLAIMS

1. A feeding system (12; 16) for feeding animals on a farm, characterized in:

- an analyzer device (13; 17) provided on the farm for measuring in real time or near real time the amount of at least one constituent of solid feed to be fed to said animals;
  - a control device provided for controlling said analyzer device to measure the amount of the constituent of the solid feed repeatedly and at least once a day;
  - 10 - a feeding device (14; 18) provided for feeding said animals; and
  - a control device provided for controlling said feeding device to feed said animals repeatedly and at each instant depending on the last one of said repeatedly performed measurements.
- 15 2. The system of claim 1 wherein a control device is provided for controlling said analyzer device to measure the amount of said constituent of said solid feed immediately prior to the feeding of said animals.
- 20 3. The system of claim 1 wherein a control device is provided for controlling said analyzer device to measure the amount of said constituent of said solid feed a plurality of times per day, and preferably at least three times per day.
4. The system of any of claims 1-3 wherein said solid feed is ensiled feed.
- 25 5. The system of any of claims 1-4 wherein the amount of said constituent includes any of protein content, dry content, and

fiber content, particularly neutral detergent fiber (NDF) content.

6. The system of any of claims 1-5 wherein a control device is provided for controlling said analyzer device to measure the amounts of a plurality of constituents of said solid feed, and a control device is provided for controlling said feeding device to feed said animals depending on the measurements of the amounts of the constituents of said solid feed.

7. The system of any of claims 1-6 wherein a control device is provided for controlling said device to perform said feeding depending on an average value of said repeatedly measured amounts of said constituent.

8. The system of any of claims 1-7 wherein said analyzer device is a spectroscopic device for quantitative chemical analysis.

9. The system of any of claims 1-8 wherein said analyzer device is a near infrared (NIR) instrument.

10. The system of any of claims 1-9 further comprising

- a computer-based processing and control device (11, 15) provided for the management of said animals including controlling of the feeding of said animals, wherein

- said processing and control device

- comprises a database including updated information regarding feed consumption by said animals;

- is connected to receive said respective measured amounts of said constituent of said solid feed;

- is provided to calculate an amount of solid feed to be fed to said animals based on the performed measurements

and said updated information comprised in said database;  
and

- is connected to indicate to said feeding device said  
calculated amount of solid feed to be fed to said animals.

5 11. The system of any of claims 1-10 wherein a control device  
is provided for controlling said feeding device to feed said  
animals with mixed solid feed having a balanced composition  
depending on the performed measurements.

10 12. The system of any of claims 1-10 wherein a control device  
is provided for controlling said feeding device to feed said  
animals with solid feed comprising ensilage and concentrate  
and/or additives depending on the performed measurements.

15 13. The system of any of claims 1-12 wherein said animals are  
grouped in different groups, and wherein a control device is  
provided for controlling said feed device to feed different  
groups of animals with total mixed rations (TMR) of solid feed  
independently and depending on the performed measurements.

20 14. The system of claim 13 wherein said animals are grouped in  
different groups depending on body condition, and, provided  
that the animals are milking animals, depending on milk  
production, days in lactation, or number of lactations.

25 15. The system of any of claims 1-12 wherein said animals have  
supply of partial mixed rations (PMR) of solid feed, including  
ensilage and concentrate, and wherein a control device is  
provided for controlling said feed device to feed each of said  
animals with additional concentrate feed individually and  
depending on the performed measurements.

16. The system of any of claims 1-12 wherein said animals are grouped in different groups, and wherein a control device is provided for controlling said feed device to (i) feed different groups of animals with roughage or ensilage depending on the performed measurements, and (ii) feed said animals with concentrate or additives individually and depending on the performed measurements.

17. The system of any of claims 1-12 wherein a control device is provided for controlling said feed device to feed different individuals of said animals with solid feed individually depending on the performed measurements.

18. The system of any of claims 1-17 wherein said feeding device is a vehicle (14) filled with said solid feed, and said on-farm analyzer device (13) is provided at said vehicle for measuring the amount of said constituent of said solid feed.

19. The system of any of claims 1-17 wherein said feeding device is a feed wagon (18), preferably an in-door feed wagon mounted on a rail in a ceiling, for automatic feeding.

20. The system of any of claims 1-19 further comprising a device (19), preferably a weighing machine or an optical device with image processing capabilities, provided for establishing in connection with said feeding, the actual feed consumption by said animals, wherein a control device is provided for controlling said feeding device to feed said animals depending on the established actual feed consumption by said animals.

21. The system of any of claims 1-20 wherein said animals are milking animals, and wherein said arrangement further comprising a device (20) provided for measuring a quality or a quantity of milk from said milking animals, and a control

device is provided for controlling said feeding device to feed said milking animals depending on the measured quality or quantity of milk from said milking animals.

22. The system of any of claims 1-21 further comprising a device (20) provided for measuring a quality of manure from said animals, wherein a control device is provided for controlling said feeding device to feed said animals depending on the measured quality of manure from said animals.

23. The system of any of claims 1-22 wherein a control device is provided for controlling said analyzer device to measure the amount of the constituent of the solid feed repeatedly and at least once a day automatically.

24. The system of any of claims 1-22 wherein a control device is provided for controlling said feeding device to feed said animals repeatedly and at each instant depending on the last one of said repeatedly performed measurements automatically.

25. A method for feeding animals on a farm, characterized by the steps of:

- measuring the amount of at least one constituent of solid feed to be fed to said animals in real time or near real time, repeatedly, and at least once a day by an analyzer device (13; 17) provided on the farm; and

- feeding said animals repetitively and at each instant depending on the last one of said repeatedly performed measurements by a feeding device (14; 18).

26. Use of a feeding system comprising an analyzer device (13; 17) and a feeding device (14; 18) for feeding animals on a farm, said analyzer device being used on the farm for measuring

in real time or near real time, repeatedly, and at least once a day the amount of at least one constituent of solid feed to be fed to said animals, and said feeding device being used for feeding said animals repeatedly and at each instant depending  
5 on the last one of said repeatedly performed measurements.